

Elliptic subcovers of a curve of genus 2.

I. The isogeny defect

Abstract:

Let C/K be a curve of genus 2 over an arbitrary field K . The purpose of this paper is to relate the set of equivalence classes of elliptic subcovers of C/K to the set of primitive representations of an intrinsic quadratic form q_C called the *refined Humbert invariant*. Furthermore, the discriminant of this quadratic form is determined here by relating it to a quantity called the *isogeny defect*.